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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/506,620	03/23/2005	Masanobu Awano	258963US2PCT	5101
22850 7590 02/09/2009 OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER WILKINS III, HARRY D				
ART UNIT 1795		PAPER NUMBER		
NOTIFICATION DATE 02/09/2009		DELIVERY MODE ELECTRONIC		

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com  
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### Office Action Summary

**Application No.**

10/506,620

**Applicant(s)**

AWANO ET AL.

**Examiner**

Harry D. Wilkins, III

**Art Unit**

1795

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 01 December 2008.  
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-23 is/are pending in the application.  
4a) Of the above claim(s) 1-18 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 19-23 is/are rejected.  
7) ☒ Claim(s) 22 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.  
10) ☒ The drawing(s) filed on 14 September 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☒ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO/S508)  
Paper No(s)/Mail Date 11/17/04, 12/20/04  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_\_  
5) ☐ Notice of Informal Patent Application  
6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Election/Restrictions***

1. Applicant's election with traverse of Group V in the reply filed on 1 December 2008 is acknowledged. The traversal is on the ground(s) that search of all of the claims would not present a serious burden. This is not found persuasive because as set forth previously, since this application was filed under 35 USC 371, it is subject to the unity of invention standard, and the inventions of groups I-V lack unity of invention.

The requirement is still deemed proper and is therefore made FINAL.

***Priority***

2. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.
3. Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

***Claim Objections***

4. Claim 22 is objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim cannot depend from another multiple dependent claim (i.e.- claim 21). See MPEP § 608.01(n). Accordingly, the claim not been further treated on the merits.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 19-23 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by  
Awano et al (US 6,818,107)

The applied reference has common inventors and assignee with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

See example 1, col. 6. Compare this language to the language of the specification at pages 53-54 which describes the formation of the cathode and coating layer on the cathode.

7. Claims 19-23 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by  
Awano et al (JP 2003-033646)

See example 1, para. [0018]. Compare this language to the language of the specification at pages 53-54 which describes the formation of the cathode and coating

layer on the cathode including the materials suitable for achieving the claimed properties.

8. Claims 19, 20, 22 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Awano et al "Low Current Density Electrochemical Cell for NO Decomposition" (2001).

Awano et al teach a chemical reactor for subjecting a treatment substance (NO) to a chemical reaction, wherein a surface coating layer (mixed NiO-YSZ) is formed on the chemical reaction component surface (cathode) and which inherently inhibits the ionization reaction of adsorbed oxygen on the surface of a chemical reaction component (cathode) where the chemical reaction of the treatment substance (NO) proceeds.

Regarding claim 20, the surface coating layer was a mixed conductive substance.

Regarding claim 22, the treatment substance was NO, which was reduced into oxygen ions in the reduction material (NiO) which ions were then conducted in the ion-conductive material (YSZ).

Regarding claim 23, since Awano et al teach using the same material for the surface coating layer, it is expected that it would inherently be made of a material that blocks the conduction path by which current supplied from outside to the chemical reaction component (cathode) reaches the adsorption point of oxygen molecules.

#### ***Double Patenting***

9. Claims 19-23 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-8 of U.S. Patent No. 6,818,107.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the '107 patent include a lower cathode made of a mixture of electron conductive phase (majority) and ion conductive phase and an upper cathode made of a mixture of ion conductive phase (majority) and electron conductive phase, which structure has the functions as set forth in claims 19-23.

***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Harry D. Wilkins, III whose telephone number is 571-272-1251. The examiner can normally be reached on M-F 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patrick Ryan can be reached on 571-272-1292. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

hdw

/Harry D Wilkins, III/  
Primary Examiner, Art Unit 1795

Application/Control Number: 10/506,620  
Art Unit: 1795

Page 6